**CHAPTER 17 ACTIVE READING WORKSHEETS**

**CLASSIFICATION OF ORGANISMS**

**Systematics**

**Read the passage below, which covers topics from your textbook.**

**Answer the questions that follow.**

One relatively new system of phylogenetic classification is called

**cladistics.** Cladistics uses certain features of organisms, called

shared derived characters, to establish evolutionary relationships.

A **derived character** is a feature that apparently evolved only

within the group under consideration. For example, if the group

being considered is birds, one example of a derived characteristic

is feathers. Most animals do not have feathers; birds are the only

animals that do. Therefore, it is safe to assume that feathers

evolved within the bird group and were not inherited from some

distant ancestor of the birds.

Cladistic taxonomists agree that organisms that share a derived

character—like feathers—probably share it because they inherited

it from a common ancestor. So shared derived characters,

particularly a *group* of several shared derived characters, are

strong evidence of common ancestry between organisms that

share them. Ancestry diagrams made by means of cladistic analysis

are called **cladograms.**

**Read each question and write your answer in the space provided.**

**SKILL: Identifying Main Ideas**

**1.** What is the main idea of the passage? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**2.** What derived character is identified in the passage? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Circle the letter of the phrase that best completes the statement.**

**3.** As the number of shared derived characters increases among organisms, the likelihood that the

organisms

**a.** lack a common ancestry increases. **c.** share a common ancestry increases.

**b.** belong to the same species increases. **d.** Both (b) and (c)